CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A mobile communication apparatus comprising a receiver, a derotator, a demodulator and a processor wherein said receiver is connected to said derotator, said derotator is connected to said demodulator, and said ~~controller~~ processor is connected to said receiver, said derotator, and said demodulator, wherein said derotator comprises:

a first means for processing a Primary Common Control Physical Channel (P-CCPCH) during a Space Time coding based Transmit Diversity (STTD) transmission mode;

a second means for processing ~~pilot~~ symbols;

a third means for processing the symbols during closed loop transmission modes; and

a fourth means for outputting the symbols to said demodulator in ~~a temporal ordered~~ an interleaved sequence,

wherein said first, said second, said third, and said fourth means are connected in series.

2. (Currently Amended) ~~A Mobile~~ The mobile communication apparatus according to claim 1, wherein said first means is transparent to the symbols other than symbols related to ~~Primary Common Control Physical Channel~~ the P-CCPCH during ~~Space Time coding based Transmit Diversity~~ the STTD transmission mode.

3. (Currently Amended) ~~A Mobile~~ The mobile communication apparatus according to claim 1, wherein said first means ~~is arranged to delete~~ deletes a first symbol related to ~~Primary Common Control Physical Channel~~ the P-CCPCH of every slot during ~~Space Time coding based Transmit Diversity~~ the STTD transmission mode.

4. (Currently Amended) ~~A Mobile~~ The mobile communication apparatus according to claim 1, wherein said second means is transparent to ~~other~~ the symbols other than pilot symbols.

5. (Currently Amended) ~~A Mobile~~ The mobile communication apparatus according to claim 1, wherein said third means is transparent during ~~other~~ transmission modes other than closed loop transmission modes.

6. (Currently Amended) ~~A Mobile~~ The mobile communication apparatus according to claims 1, wherein said derotator comprises a plurality of two-position switches.

7. (Currently Amended) A method for derotation of received symbols in a mobile communication apparatus, the method comprising the steps of:

processing a Primary Common Control Physical Channel (P-CCPCH) during a Space Time coding based Transmit Diversity (STTD) transmission mode;

processing ~~pilot~~ symbols;

processing the symbols during closed loop transmission modes; and

outputting the symbols in ~~a temporal ordered~~ an interleaved sequence.

8. (Currently Amended) ~~A Method~~ The method according to claim 7, wherein said step of processing ~~Primary Common Control Physical Channel~~ the P-CCPCH during ~~Space Time coding based Transmit Diversity~~ the STTD transmission mode comprises:

deleting a first symbol related to ~~Primary Common Control Physical Channel~~ the P-CCPCH of every slot during ~~Space Time coding based Transmit Diversity~~ the STTD transmission mode.

9. (Currently Amended) ~~A Method~~ The method according to claim 7, wherein said step of processing ~~pilot~~ the symbols comprises processing a compressed mode by the steps of:

summing two pilot symbols; and

dividing the sum of said two pilot symbols by two.

1 10. (Currently Amended) ~~A Method~~ The method according to claim 7, wherein said

2 step of outputting the symbols comprises:

3   dividing the symbols by two when transmit diversity is present.

4 11. (New) A derotator comprising:

5   a Primary Common Control Physical Channel (P-CCPCH) processor block

6 that receives despread symbols and processes the despread symbols;

7   a first derotator block that receives the processed symbols from the P-CCPCH

8 processor block, wherein the first derotator block further comprises:

9   a pilot derotator sub-block that operates only on pilot symbols within

10   the processed symbols from the P-CCPCH processor block and produces a

11   first signal wherein non-pilot symbols are unaltered,

12   a general derotator sub-block that receives the first signal from the

13   pilot derotator sub-block, applies different weights to the processed symbols

14   from the P-CCPCH processor block based upon whether a transmission mode

15   is closed loop, and produces a second signal; and

16   a second derotator block that receives the second signal from the general

17 derotator sub-block, performs switching operations based upon whether the

18 transmission mode is Space Time coding based Transmit Diversity (STTD), and

19 produces an output signal.

12. (New) The derotator of claim 11, wherein the P-CCPCH processor block further comprises:

a first P-CCPCH processor switch that selectively forwards the despread symbols based upon whether the transmission mode is STTD;

a second P-CCPCH processor switch that sends every despread symbol that is a multiple of ten to a first dump.

13. (New) The derotator of claim 11, wherein the pilot derotator sub-block further comprises:

a first switch that selectively forwards the processed symbols based upon whether there is a compressed mode;

a compressed mode path comprising

a summer that adds two pilot symbols from the processed symbols to produce a sum when there is a compressed mode, and

a bit shifter that divides the sum of the two pilot symbols by two;

a second switch that selectively forwards the pilot symbols based upon whether the transmission mode is STTD; and

a third switch that selectively outputs the pilot symbols as the first signal when a time instant is T1 or T3.

14. (New) The derotator of claim 11, wherein the general derotator sub-block further comprises:

a plurality of switches that selectively forward the first signal based upon whether the transmission mode is STTD; and

a plurality of multipliers that apply weights to the first signal based upon the transmission mode and produce the second signal.

15. (New) The derotator of claim 11, wherein the second derotator block further comprises:

a plurality of switches that selectively forward the second signal based upon the transmission mode and whether a pilot field is present in the second signal; and

a switch that sends the second signal to a second dump when transmission of P-CCPCH with STDD is present.

16. (New) The method of claim 7, further comprising:

dumping the symbols when transmission of P-CCPCH with STDD is present.

17. (New) The method of claim 7, further comprising:

determining whether two pilot bits or four pilot bits are used.

18. (New) The method of claim 7, further comprising:

determining whether Feed Back Mode 1 (FBM1) or Feed Back Mode 2 (FBM2) is used.

19. (New) The method of claim 7, further comprising:

dropping a Least Significant Bit (LSB) of intermediate signals when transmit diversity is present.

20. (New) The method of claim 7, further comprising:

determining whether the transmission mode is STTD; and

ordering the symbols based upon the determining step.